

ABSTRACT

[0093] A method of forming a damascene structure including an insulator portion having a barrier layer comprising silicon carbide (SiC) or silicon carbon nitride (SiCN) on a metal wiring layer formed on a substrate. The method includes the steps of supplying a gas mixture comprising trifluoromethane (CHF_3) to a chamber accommodating the substrate and generating a plasma in the chamber, thereby forming a via hole communicating with the metal wiring layer through the first layer containing silicon carbide (SiC) or silicon carbon nitride (SiCN).